

## BOOK REVIEWS

**The New Penguin Dictionary of Electronics.** By Carol Young. Published by Penguin Books Ltd., 17 Grosvenor Gardens, London SW1, England. Pp. 618. Price £ 7.95.

Tremendous progress has been witnessed in electronics and communications ever since radio communication became practical at the end of the last century. The advances in vacuum-based and gas-filled electron devices in the early part of this century made possible many developments in radio, TV, long-distance communication, industrial electronics and other allied areas. More recently, the advent of solid-state electronics and, in particular, the progress in transistors, integrated circuits, large-scale integration, etc., introduced an era of micro-miniaturization in electronics which has profound impact on many areas of electronics, e.g., computers, medical electronics, digital communication, space electronics, telemetry, instrumentation, etc. These developments have brought in many new words, acronyms, terms, etc., in the English language and their number and variety are continuously on the increase. As familiarity with these new additions to the English language is important for any one to work in electronics, a complete dictionary of electronics is well justified.

The book under review is a new and enlarged version of the former Penguin Dictionary of Electronics. Although called a dictionary, it is much more than that. It gives brief descriptions of words and terms used in electronics research and industry, particularly emphasizing solid-state electronics. In addition, it also contains definitions of words and terms in related fields, such as computers, communications and electrical engineering together with some entries of historical interest in electronics. The operation of modern solid-state devices, integrated circuits, etc., and major technological processes used are also described in the dictionary in somewhat detail. Equivalent circuits, and some aspects of circuit analysis and design have also been covered in many cases. The reviewer is happy to find in the dictionary even the latest developments in solid-state electronics, such as magnetic bubbles, CCDs, DMOs and VMOs circuits, Josephson effect, dynamic memory, microprocessor, SAW devices, fibre-optics, etc. The description given in each case is not only simple, but backed by scientific and technical information. Thus, it easily qualifies as a source of authoritative descriptions and definitions of all relevant items in current electronics engineering practice. Scientists and engineers working in electronics should find this dictionary quite useful for their day-to-day work.

In addition to the above material, the dictionary also provides supplementary information, such as graphical symbols as per the standard practice followed now, colour codes for components, properties of semiconductors, electric and magnetic quantities, fundamental constants, units, electromagnetic spectrum, etc., together with a table giving the major discoveries and inventions relating to electronics. While the information con-

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tained herein is no doubt of great value to the reader, the reviewer is surprised that post-1962 developments in electronics do not seem to have been included in the table giving the major discoveries.

The compilation of a dictionary such as this is indeed a major task. The compiler and the publisher should be complimented for making this volume available for the electronics community.

B. S. SONDE

**Sun, Weather and Climate.** By John R. Herman and Richard A. Goldberg, Scientific and Technical Information Branch, National Aeronautics and Space Administration, Washington, D.C., 1978. Supdt. of Docs. No. NAS 1.21 :426—For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402, (Stock No. 033-000-00747-7). Pp. xii + 360, Price not stated. Paper back edition.

What are the short, intermediate and long-term relationships between solar activity, and, weather and climate? This is an area of interdisciplinary activity of the highest order. It is currently of absorbing interest to astronomers, space scientists, geophysicists, and meteorologists. Indirectly, it is of interest to agricultural scientists, radio communication system engineers and civil engineers concerned with irrigation and water supply. It represents a realm of knowledge much larger than what one man can master. The authors and NASA have to be congratulated for making available what is now known and for projecting into possible mechanisms.

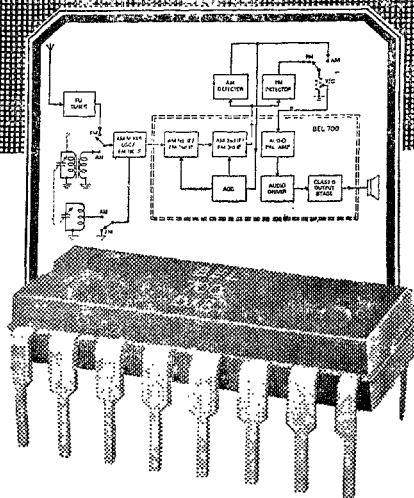
The book commences with a description of solar-related correlation factors and energy sources, viz., sunspots, electromagnetic and corpuscular radiation, geomagnetic activity, etc. There follows a review of the long term climatic trends. Short term meteorological correlations to the extent known are summarised thereafter. This is followed by a brief but scintillating look into miscellaneous obscuring influences. Physical processes and mechanisms are then discussed. This is followed by a review of the sun-weather relationships. Guidelines for experimental work are furnished. There is an Appendix on the physical properties of the atmosphere and conversion factors. A second Appendix lists the abbreviations, indices, symbols, and units of measure. At the end is a complete list of references and this should prove most valuable to any future investigator. There are author and subject indices.

The treatment is lucid throughout the book and its printing and get-up are excellent. Some discussion could be regarded as speculative but such an approach is absolutely necessary for a book of this type written on a subject where much needs to be done. In fact, such speculations can assist fertilisation of new ideas.

This book should find a place in the libraries of institutions of higher learning, some of our national laboratories, and government departments dealing with the subject directly or indirectly.

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